

**METHOD OF INHIBITING METAL SILICIDE ENCROACHMENT IN A
TRANSISTOR**

Abstract of the Disclosure

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A method inhibits metal silicide encroachment in channel regions in a transistor that uses metal silicide as an electrical contact to its terminals. A metal layer is deposited overlying the transistor. A first anneal that is a low temperature anneal forms metal silicide regions to source, gate and drain terminals of the transistor. The low temperature inhibits lateral encroachment. Unsilicided portions of the metal are removed and followed by an ion implant of an element, such as nitrogen, that diffuses into the metal silicide regions. A second anneal at a higher temperature than the first anneal is completed wherein the implanted nitrogen ions prevent lateral encroachment of metal silicide.